Maine Public Utilities Commission
2003 Supplemental Report on Distributed Generation

Introduction

During its last session, the Utilities and Energy Committee considered L.D. 671, An Act To Facilitate the Development of Cost-Effective Distributed Electricity Generation in the State. The L.D. sought to address a variety of issues related to distributed generation ("DG")[1] that were discussed in a Commission report to the Legislature issued in October 2001. The L.D. was carried over to the current session and the Committee informally asked the Commission to continue its ongoing review of issues related to DG.

Based on the discussions that occurred during the last session, the primarily considerations[2] regarding DG can be summarized by the following questions:

- Are there any unwarranted barriers regarding the use of DG in Maine?
- What will be the impact of the increased use of DG on utilities and their ratepayers?

Thus, there appears to be a focus among the committee that DG be available for use by Maine residents and businesses when it makes economic sense, while at the same time there is a concern regarding the impact of DG growth on electricity ratepayers.

More specifically, the Committee's discussion focused on the following items:

- The appropriate regulatory structure regarding the retail sales from distributed generation;
- The facilitation of wholesale market access for distributed generation;
- The possible expansion of net billing; and
- The possible existence of grid interconnection issues.

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[1] For purposes of this discussion, DG is a generation facility in the range of 5 MW or less that is intended to serve primarily a single customer or a limited number of customers.

[2] Another important consideration regarding DG is environmental. To the extent that the DG is fueled by renewable technologies, its promotion can be viewed as beneficial to the environment. However, the promotion of other types of DG (primarily diesel fueled) can be viewed as harmful to the environment. The Commission has no particular expertise in these types of environmental issues. However, as the Committee considers DG issues, it should keep in mind whether its goal is to promote only renewable DG or DG fueled in any manner.

The Commission's Report and Recommendations on the Promotion of Renewable Resources (issued December 2003) ("Renewables Report") discusses the second and third items (wholesale market access and net billing) at length. In the following sections of this report, the Commission discusses the other two items (regulatory structure for retail sales and interconnection issues), and offers recommendations for the Committee's consideration.

Retail Sales Regulatory Structure

Issue

The primary question is under what circumstances should the current regulatory structure be changed to allow distributed generators to sell electricity to third parties without being designated a transmission and distribution utility ("T&D") utility or a competitive electricity provider ("CEP"). This question implicates the regulatory system of utility franchise areas and raises a fundamental tradeoff between promoting the use of DG and possible harm to T&D utilities and their customers resulting from lost sales.

The existence of utility franchise areas, by their nature, creates "barriers" to the use of DG. Thus, the question is to what degree should the system of utility franchise areas be eroded to promote the use of DG.

Current Structure

Under the current regulatory structure, electricity transactions may occur within a utility franchise area if they are determined to be "private" rather than "public" in nature. Pursuant to State law and Commission precedent, the following circumstances may occur:

- Any individual entity can serve its own needs with DG;
- A distributed generator can sell to an affiliated third party; and
- A distributed generator can, under some circumstances, sell to an unaffiliated third party that has a commercial or corporate relationship that goes beyond the sale of electricity.[3]

[3] The Commission's most recent discussion of the distinction between "public"/"private" transactions and when transactions may occur without infringing on utility franchise areas occurred in what is typically referred to as the *Borelex* decision. *Commission Investigation Regarding the Plans of Boralex Stratton Energy to Provide Electric Service Directly from Stratton Lumber Company,* Docket No. 2000-653 (April 6, 2001) (Commissioner Diamond, dissenting). A copy of that decision is attached to this report.

Possible Alternative Structures

There are a number of possible alternative structures that can be viewed as a continuum from least intrusive on utility franchise areas to more intrusive. These are listed below:

- Maintain status quo.
- Require that DG be designed to primarily serve the needs of a single customer (either the needs of the distributed generator or a third party), but allow the sale of excess electricity:
    - to a single entity in proximity to the DG;
    - to a single entity without a proximity requirement;
    - to a limited number of entities in proximity to the DG;
    - to a limited number of entities without a proximity requirement; or
    - to any entity without any proximity requirement.
- No requirement that DG be designed to primarily serve a single entity with sales allowed:
    - to a single entity in proximity to the DG;
    - to a single entity without a proximity requirement;
    - to a limited number of entities in proximity to the DG;
    - to a limited number of entities without a proximity requirement; or
    - to any entity without any proximity requirement.

Implications

The primary implications of altering the current structure to promote the use of DG are the avoidance of stranded cost payments and the loss of contribution to the fixed costs of the T&D system.[4] These implications are only present if the sale of electricity from the DG occurs over lines other than those of the utility.

- Stranded Costs: It is only the economic use of DG that should be promoted. The use of DG to avoid the payment of stranded costs

[4] Beginning in the mid-1990s, electric utilities in Maine have had significant discretion to offer discounted rates so that customers would refrain from installing DG for their own use. These discounted rates were offered to keep customers on the utilities' systems as a means to maintain a contribution to fixed costs and to minimize rates for other ratepayers. During legislative debates in recent years, utilities have been encouraged to find ways to maintain discounted rates so customers would not leave the system in favor of DG.

is not an economic use of DG. Thus, the current structure should not be altered in any way that allows stranded cost avoidance.

- T&D System Costs: If a distributed generator can transmit electricity to third parties at a lower cost than the utility, it is by definition economic . However, the rationale justifying utility franchise areas is that overall system costs (and consequently rates) will be lower if a utility serves all customers in a particular area. Thus, the tradeoff is that the distributed generator and its customers may achieve lower costs, but this would come at the expense of higher unit costs for the utility's ratepayers.

Recommendations

At this point, the Commission does not see an urgent need to change the current regulatory structure. Assuming that stranded cost avoidance is not allowed, there are likely to be few instances in which it would be cost justified for a distributed generator to serve customers at retail through lines that are not owned and operated by the utility. For example, a distributed generator and its customers that are not at all connected to the grid would have to face issues of load following and back-up power when the DG is out for maintenance. As a general matter, it would be more practical for a distributed generator to sell its power into the wholesale market.[5]

In the event the Legislature desires to make some change to the current structure to promote the use of DG, the Commission recommends that a relatively cautious approach be employed, at least initially. The Commission would recommend that the distributed generator be allowed to sell electricity at retail to third parties that are either adjacent to or in the proximity[6] to the generator. This situation would allow for DG use in an industrial park or a shopping center. The Commission emphasizes again that such a modification to the utility franchise should not be used for the avoidance of stranded costs; thus, all retail users should be required to pay the same stranded costs as if they were utility customers. Importantly, the results of any major change in regulatory structure cannot be predicted with certainty and there could be unintended consequences. For this reason, the Commission recommends that a legislative review occur when the amount of DG serving retail customers reaches a pre-specified capacity level.

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[5] Relative to retail sales, DG access to the wholesale market does not raise issues of intrusions of utility franchise areas or stranded cost avoidance. Recommendations regarding means to facilitate small generator access to the wholesale market are discussed in the Commission's Renewables Report.

[6] The term "proximity" would need to be defined. This could occur through Commission rule.

In the event the Legislature decides to change the regulatory paradigm to promote economic DG, the issue of properly designed standby rates is of greater importance. Improperly designed standby rates could result in either too much or too little DG than would be economic. Currently, standby rates have a substantial usage sensitive component, which tends to be favorable to those installing DG. However, it is likely that a proper design of T&D standby service would include a greater fixed component that would make DG projects less desirable. The Legislature should consider mandating a review of standby rates as part of any policy to actively promote DG.

Interconnection

Issue

The primary question is whether utility interconnection processes in Maine create an unwarranted barrier to the installation of DG. Historically, small generators around the country have complained that utility interconnection requirements are overly burdensome and costly. The current issue is whether the State should intervene at this time to ensure that utility interconnection agreements and procedures are reasonable from the perspective of both small generators and utilities.

Discussion

The Commission's observation is that small generator interconnection issues have not been a major impediment to the installation of DG in Maine. Shortly after the restructuring of the electric industry in Maine, Central Maine Power Company ("CMP") and various small generator stakeholders developed and agreed to less complex small generator interconnection procedures and a standard interconnection agreement for small generators (less than 5 MW) in the context of a Federal Energy Regulatory Commission ("FERC") proceeding. The procedures and agreements appear to be working as intended in that the Commission has received no complaints regarding CMP's actions in this regard. Moreover, the Commission has not generally received complaints that Bangor Hydro-Electric Company or Maine Public Service Company are using the interconnection process to create an unnecessary barrier to DG development.

In addition, the FERC has decided to address the issue of small generator interconnection. In August 2002, the FERC initiated a rulemaking proceeding to consider streamlined procedures and less complex interconnection requirements that would better suit the lower grid impacts of small generators.[7] The FERC is considering separate standardized procedures and agreements for generators of

[7] FERC Docket No. RM02-12-000.

2 MW or less and generators between 2-20 MW. The FERC has not yet issued a final decision in this matter.

Recommendation

The Commission recommends that no legislative action occur at this time with respect to small generator interconnection procedures or agreements. At the current time, there appears to be no need for legislative intervention. The Commission is not aware of any unwarranted barriers deriving from the interconnection procedures and the FERC is in the process of addressing the matter. The Commission will continue to monitor interconnection issues and will keep the Legislature informed of any developments in this area.[8]

[8] The Commission's recommendation that no legislative intervention is required at this time is not meant to suggest that the cost of interconnection is trivial. Indeed, such costs could be substantial enough to render some DG projects uneconomic. However, such an outcome does not mean that Maine's interconnection processes are inappropriate or an uneconomic barrier. Rather, on balance, Maine's interconnection process appears to be relatively efficient.